

Jianhao Zhang

National Research Council (NRC) Research Associate

NOAA Chemical Sciences Laboratory (CSL)

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PROFESSIONAL APPOINTMENT

NOAA Chemical Sciences Laboratory, Boulder, CO

Sept. 2020 – present

NRC Research Associate (postdoc fellow hosted by Dr. Graham Feingold)

EDUCATION

University of Miami, Miami, FL

August 2020

Ph.D. in Meteorology and Physical Oceanography

Dissertation: The interactions between light-absorbing smoke and marine boundary layer clouds over the remote southeast Atlantic

Committee: Dr. Paquita Zuidema (Chair), Dr. Brian Mapes, Dr. Brian Soden, Dr. Cassandra Gaston, Dr. David Turner & Dr. Takanobu Yamaguchi

Florida State University, Tallahassee, FL

May 2014

B.S. in Meteorology (Magna cum laude)

Minor in Mathematics

Nanjing University of Information Science and Technology, Nanjing, China

May 2014

Joint B.S. in Atmospheric Science

PEER-REVIEWED PUBLICATIONS

Published

Abel, S. J., Barrett, P. A., Zuidema, P., **Zhang, J.**, Christensen, M., Peers, F., ... Flynn, M. (2020). Open cells exhibit weaker entrainment of free-tropospheric biomass burning aerosol into the south-east atlantic boundary layer. *Atmos. Chem. Phys.*, 20(7), 4059–4084. doi: 10.5194/acp-20-4059-2020

Zhang, J., & Zuidema, P. (2019). The diurnal cycle of the smoky marine boundary layer observed during august in the remote southeast atlantic. *Atmos. Chem. Phys.*, 19 (23), 14493–14516. doi: 10.5194/acp-19-14493-2019 *

Zuidema, P., Sedlacek III, A. J., Flynn, C., Springston, S., Delgadillo, R., **Zhang, J.**, ... Muradyan, P. (2018). The ascension island boundary layer in the remote southeast atlantic is often smoky. *Geophys. Res. Lett.*, 45(9), 4456–4465. doi: 10.1002/2017GL076926

Chandra, A. S., Zuidema, P., Krueger, S., Kochanski, A., de Szoeko, S. P., & **Zhang, J.** (2018). Moisture distributions in tropical cold pools from equatorial indian ocean observations and cloud-resolving simulations. *J. Geophys. Res. Atmos.*, 123(20), 11,445–11,465. doi: 10.1029/2018JD028634

Zhang, J., Zuidema, P., Turner, D. D., & Cadeddu, M. P. (2018). Surface-based microwave humidity retrievals over the equatorial indian ocean: Applications and challenges. *J. Appl. Meteor. Climatol.*, 57(8), 1765–1782. doi: 10.1175/JAMC-D-17-0301.1

* ACP Highlight Article

Under Review & In Preparation

Zhang, J., & Zuidema, P. (2020). Presence of biomass burning smoke enhances the seasonal cycle of low-clouds in the remote southeast atlantic. *In prep for Geophys. Res. Lett.*

RESEARCH AND TEACHING EXPERIENCE

Graduate Research Assistant*University of Miami*

August 2014 - present

*Miami, FL***Field Campaigns**

September 2017 & August 2016

- NASA ORACLES-2017, São Tomé, São Tomé and Príncipe.
- NASA ORACLES-2016, Walvis Bay, Namibia.

Workshop Attendee*NCAR*

Spring 2016

Boulder, CO

NCAR/ACCORD Atmospheric Radiation Science Workshop.

Teaching Assistant*University of Miami*

Fall 2015

Miami, FL

Introduction to Weather and Climate by Dr. Brian Soden (ATM102).

Workshop Attendee*National Weather Center*

Summer 2015

Norman, OK

First Department of Energy (DOE) Atmospheric Radiation Measurement (ARM) summer training, modeling group.

Undergrad Research Assistant*Florida State University*

2013 - 2014

Tallahassee, FL

- Analyzing reanalysis and passive microwave remote sensing data from satellites at Dr. Guosheng Liu's lab.
- Poster presented at the AGU Fall Meeting (2013), "On the Sensitivity of Passive Microwave Observation to Overland Snowfall Detection."

On-camera weather-broadcasting*Florida State University*

2013 - 2014

Tallahassee, FL

Training given by Dr. Jon Ahlquist.

PROFESSIONAL AND UNIVERSITY SERVICES

Peer Reviewer

- Journal of Geophysical Research: Atmosphere (AGU)
- Bulletin of the American Meteorology Society (AMS)
- Atmospheric Science Letters (RMetS)
- Journal of Applied Meteorology and Climatology (AMS)
- Atmospheric Chemistry and Physics (EGU)
- Climate Dynamics (Springer)

RSMAS Student Seminar Committee*University of Miami*

Fall 2016

Miami, FL

Intramural Basketball Official
Florida State University

Spring 2014
Tallahassee, FL

AWARDS, FELLOWSHIPS, & HONORS

National Research Council Postdoctoral Fellowship 2020
National Academy of Sciences

Hosted by Dr. Graham Feingold at NOAA CSL, Boulder CO

University of Miami Fellowship 2014 - 2016
University of Miami *Miami, FL*

The highest award offered by the University of Miami Graduate School. One of the eight university-wide recipients of the year.

NASA's Group Achievement Award 2019
ORACLES Team

President's list Fall 2012 & Fall 2013
Florida State University *Tallahassee, FL*

Dean's list Spring 2013 & Spring 2014
Florida State University *Tallahassee, FL*

Chi Epsilon Pi Honor Society 2014
Florida State University *Tallahassee, FL*

Golden Key Honor Society 2014
Florida State University *Tallahassee, FL*

Second Tier Scholarship (top 10% of grades ranking of the academic year) 2011 - 2012
Nanjing University of Information Science and Technology *Nanjing, China*

First Tier Scholarship (top 5% of grades ranking of the academic year) 2010 - 2011
Nanjing University of Information Science and Technology *Nanjing, China*

ORAL PRESENTATIONS

2020 DOE ARM/ASR Joint meeting virtual presentation due to COVID-19
 "Amplified seasonal cycle of low-clouds over the remote southeast Atlantic when biomass-burning aerosol is present"

2020 CLARIFY/ORACLES/LASIC/AEROCOLA-Sa Joint Science Team Meeting
 virtual presentation due to COVID-19
 "Smoke appears to amplify the low-cloud seasonal cycle over the remote SE Atlantic"

2019 ORACLES Science Team Meeting Miami, FL, May 2019
 "Understanding the low cloud reduction and its diurnal cycle within the smoky boundary layer in the remote SE Atlantic"

2019 EGU General Assembly Vienna, Austria, April 2019
 "Understanding the low cloud reduction and its diurnal cycle within the smoky boundary layer in the remote SE Atlantic"

CLARIFY/ORACLES/LASIC/AEROCOLA-Sa Joint Workshop Paris, France, April 2019

“Low cloud reduction within the smoky boundary layer and its diurnal cycle”

2019 AMS Annual Meeting

Phoenix, AZ, January 2019

“Understanding semi-direct effect within the smoky marine boundary layer over the remote Southeast Atlantic”

AMS 15th Cloud Physics and Radiation Conference

Vancouver, BC, Canada, July 2018

“Adjustments of the cloudy marine boundary layer to light-absorbing aerosols above the remote SE Atlantic”

POSTER PRESENTATIONS

2017 AGU Fall Meeting

New Orleans, LA, December 2017

“Boundary layer adjustments to the presence of absorbing aerosols inferred from LASIC field campaign”

2017 Gordon Research Conference and Gordon Research Seminar Lewiston, ME, July 2017

“Boundary layer adjustments to the presence of absorbing aerosols inferred from LASIC field campaign”

2017 AMS Annual Meeting

Seattle, WA, January 2017

“Tropical humidity vertical structure inferred from a Microwave Radiometer during DYNAMO”

2016 EGU General Assembly

Vienna, Austria, April 2016

“Retrievals on Tropical small-scale humidity variability from a Multi-Channel Microwave Radiometer”

PROFESSIONAL SKILLS

Programming and data analyzing: IDL, Matlab, Fortran, LaTeX, Unix Shell scripting, Python.

Experience with Bayesian Optimal Estimation Method, Newtonian Iteration Technique, System for Atmospheric Modeling (SAM), NOAA HYSPLIT Trajectory Model.